

Subject: INFO-HAMS Digest V89 #942
To: INFO-HAMS@WSMR-SIMTEL20.ARMY.MIL

INFO-HAMS Digest Tue, 28 Nov 89 Volume 89 : Issue 942

Today's Topics:

Contests
Direct Digital Synthesis - DDS
FT 470
How to answer CQ TEST
How to save your car's electrical s
Listen to store security guards catch shoplifters
My R4 experience
Restrictions on RECEIVING signals in England....
WANTED : References on 'Direct Digital Synthesis'
was: What's a good "FCC class B" PC/AT c, now: shielded coax

Date: 28 Nov 89 18:43:31 GMT
From: tank!eecae!cps3xx!usenet@handies.ucar.edu (Usenet file owner)
Subject: Contests

In article <8911270800.AA22750@uchvax.Berkeley.EDU> LEY@UWSTOUT.BITNET ("James P. Ley") writes:

>On occasion I hear "CQ Contest" on the air. I do not participate in contests
>myself and wonder whether I should answer the call and give the caller a
>contact or whether I would be a hinderance since I don't know all the numbers
>and things that the testers use and would thus slow him or here down.
>Any advice from testers?
> Jim, NX9F

I suggest you work the guy, and give him the point. If he is sitting there running a string of other contacts, then maybe not, but if he is calling CQ with no response, his time won't be wasted by your contact. He should be able to explain to you quickly the information you need to tell him.

Disclaimer: I only participate in VHF/UHF/SHF/EHF contests. (I haven't participated in any for the last year; I'm now a full time student again.) This advice should be good for contests on the "DC bands" also.

In the rare case that original ideas are found here, I am responsible.
Internet: kjh@pollux.usc.edu

Kenneth J. Hendrickson N8DGN
Owen W328, E. Lansing, MI 48825
UUCP: ...!uunet!pollux!kjh

Date: Tue, 28 Nov 89 13:26:35 EST
From: Doug Theriault <dtheriau@wellfleet.com>
Subject: Direct Digital Synthesis - DDS

The November 09, 1989 edition of EDN magazine has an article on DDS and a list of companies with some modules. May help inform a few of you interested in learning what DDS is all about.

```
=====
[ Doug H. Theriault      <dtheriau@wellfleet.com>      ARS: NO1D ]
=====
[          Wellfleet Communucations, Inc.              ]
[          12 DeAngelo Drive  Bedford, MA              ]
[          01730-2204   (617)275-2400 x242             ]
=====
[ uucp:          harvard!talcott!wellflt!dt            ]
[ internet:      no1d@wellfleet.com                    ]
=====
```

Date: 28 Nov 89 19:03:32 GMT
From: usc!orion.oac.uci.edu!uci-ics!turner@apple.com (Clark Turner)
Subject: FT 470

Hi all:
My posting about the FT470 dual band handheld has resulted in many requests for information. I therefore give my best low level opinion on the radio

I bought the FT 470 about 3 weeks ago, and am generally happy with it. I do not have experience with the other dual band HT's, except to use them for a couple of minutes at the HRO store near me. I live in a community full of RF....pagers, etc.

Things I like:

Smallest in size of the 4 available
Very good audio reports
Structurally sound (constructed with the entire back side of the unit as a heat sink, joints seem to be rubber gasketed, keyboard appears waterproof with plastic film,etc.)
The duckie radiates somewhat better than a dummy load (not like my Kenwood)
The save circuit works very well...battery life is extended
Dual band scanning is great
Easy to toggle extended receive on 2 meters (but you lose memories previously

set)

Things I don't like:

Intermod wipes out the receiver in certain areas of Anaheim when using the
mag mounted dual band whip (no internal attenuator like the Kenwood?)

The belt clip is extra (annoying)

The alkaline battery pack is designed such that it is larger than it has to
be and the unit will no longer fit into its case...(silly, and they
list one that is correctly sized but not yet available)

There is an increase in noise (hiss) when the receiving on two frequencies
simultaneously...noticeable, but not really significant.

(Seems to be a little of microphonics when transmitting on one
frequency and receiving on another. Barely noticeable, and not
easily reproduced at different times and frequencies.)

Pitifully little audio output (and the speaker/mike is no better)

I basically bought the rig to fit into my backpack easily, and to carry around
with me wherever I walk, bike, drive, etc, so the size was determinative....
the sensitivity appears to be superior, but I also have the intermod when in
certain areas.

I am about to take my radio back to HRO to discuss the intermod. I understand
(and there have been postings in this regard) that later models do not have
this problem. I am disturbed that a salesperson would sell me a radio which
he knows to have an intermod problem without explaining the possible need for
"warranty repair" time. Of course, if I lived out of the city areas, the
problem would not arise (I would likely never find it).

Clark S. Turner
WA3JPG
turner@ics.uci.edu

"When the going gets weird,
the weird turn pro."
-Hunter Thompson

Date: Tue, 28 Nov 89 10:33:17 EST
From: pescatore_jt%ncsd%gte.com@RELAY.CS.NET
Subject: How to answer CQ TEST

>Date: Sun, 26 Nov 89 15:32 CST
>From: "James P. Ley" <LEY%UWSTOUT.BITNET@CUNYVM.CUNY.EDU>
>Subject: Contests

>On occasion I hear "CQ Contest" on the air. I do not participate in contests
>myself and wonder whether I should answer the call and give the caller a
>contact or whether I would be a hinderance since I don't know all the numbers
>and things that the testers use and would thus slow him or here down.

>Any advice from testers?

> Jim, NX9F

Definitely call! But, as a minimum, first listen to the guy calling CQ work a few people and figure out the exchange you should send. If you have enough time, look in QST or CQ magazine to see if it is a DX or domestic contest and what the exchange is. But in most contests (the CQ WW CW/SSB contests the last weekends in October and November and the ARRL DX contest in Feb/March being the only real exceptions) a contact from the US counts as points for a US tester.

What to send? If you hear WB2EKK calling CQ TEST, return with your call sent ONCE. When he sends back NX9F 599 08 (IARU HF contest) you send back the exchange ONCE (599 07 or whatever) and that is it. You don't have to send your call again (unless WB2EKK asks for it and he always gets the call right the first time) and you need only send the exchange once. On CW send at the highest speed you are comfortable with. A good tester will slow down to match your rate.

See you in the 10 meter contest weekend after next. 73 John WB2EKK @N4QQ

PESCATORE_JT%NCSD@GTE.COM

Date: 28 Nov 89 09:08:00 GMT
From: ux1.cso.uiuc.edu!ux1.cso.uiuc.edu!m.cs.uiuc.edu!kenny@iuvax.cs.indiana.edu
Subject: How to save your car's electrical s

>Are there any better ideas out there? What can be done to clamp a large
>voltage surge or at least blow out the fuse when a surge occurs?

The usual thing to do, rather than use a humpin' big Zener diode, is to use a crowbar circuit built around a small Zener diode and a big SCR. I'm not going to try to do the schematic with ASCII graphics. The idea is that you connect the cathode of the Zener to the positive power supply, and the anode to a resistor to ground. The anode will remain at ground potential until the supply voltage exceeds the breakwn voltage of the Zener.

>From the anode of the Zener you also connect a capacitor to ground, to bypass noise, and you connect the anode of the Zener to the gate of the SCR. The anode of the SCR goes to the positive supply, and the cathode goes to ground.

Under normal operation, the Zener doesn't conduct, the gate of the SCR is at ground potential, the SCR is off, and the crowbar circuit is dead. When the voltage exceeds the Zener breakdown voltage, the Zener starts to conduct, and its anode rises above ground potential. When the voltage at the anode of the Zener reaches the trigger voltage of the SCR -- foof! -- the SCR turns on, and stays on until the fuse is blown.

It helps if you can put some resistance and/or inductance between the crowbar and the load.

A-T

Date: 28 Nov 89 16:01:36 GMT
From: cadre.dsl.pitt.edu!pitt!speedy.cs.pitt.edu!hoffman@pt.cs.cmu.edu (Bob Hoffman)
Subject: Listen to store security guards catch shoplifters

The FCC databases, as well as many other government databases, are available for purchase from the National Technical Information Service, NTIS. When I checked a number of years ago, you could buy the entire FCC database, DC-to-daylight, on nine 2400-foot magtapes for about \$2000. It's probably quite a bit larger and more expensive by now. Bob Grove (Grove Enterprises) used to sell it on microfiche for \$150. The scanner-listing books use these tapes as well. Federal government stations are not licensed by the FCC, so these tapes do not contain federal agencies' frequencies.

---Bob.

--
Bob Hoffman, N3CVL {allegra, bellcore, cadre, idis, psuvax1}@pitt!hoffman
Pitt Computer Science hoffman@cs.pitt.edu

Date: 28 Nov 89 16:50:03 GMT
From: rti!xyzz!aquila.DG.COM!harrism@mcnc.org (Mike Harris)
Subject: My R4 experience

I'd like to throw in my two cents worth in concerning my recent encounter with an R4. I'm sure it applies equally well to an R5.

First, I just purchased an R4 from Ross Distributers in Idaho for \$189! That is \$40 less than the old price for the R4 & \$80 less than that for an R5. With that difference I can have an R5 (conversion kit is \$45) for the same as an R4 was normally. I'm not sure how many more Ross has.

Second, I installed mine on a chimney mount with a 5 foot mast. This put it at 23 ft. Most importantly, however, it was only 5 feet above my metal roof vent strip & the ground radials were only just above the Chimney cap.

The SWR curves for 20 & 15 (don't have the other bands) was horrible with 15 being the worst (1.9 being the BEST swr). As an experiment, I replaced the 5 ft mast with a 10 foot one. The results were incredible! SWR on 20 & 15 especially came down to match their curves. I measured the roof vent & it was close to 1/2 wave long on 15. This was most likely the problem.

I had to put the 5 footer back in as the 10 was too spindly, rusty, and my chimney mounts were only 18" apart. Too much of a moment for proper support.

I'm going to put it on a 30 ft push up mast as soon as I can.

Otherwise, I love the antenna - The performance is very good & the SWR curves are excellent. Just remember that it is VERY sensitive to nearby metal object - esp if they are resonant lengths. I don't think that the documentation stresses this enough.

Enjoy!

Mike Harris - KM4UL
Data General Corporation
Research Triangle Park, NC

harrism@dg-rtp.dg.com
{world}!mcnc!rti!dg-rtp!harrism

Date: 28 Nov 89 18:53:26 GMT
From: tank!eecae!cps3xx!usenet@handies.ucar.edu (Usenet file owner)
Subject: Restrictions on RECEIVING signals in England....

With all the lack of rights that Brits have, I think it is good for us (Americans) that we fought the revolutionary war. "That government governs best that governs least" - Jefferson. Beware, American citizens: YOUR RIGHTS ARE BEING TAKEN AWAY FROM YOU slowly. Examples include ECPA, gun control, checkpoints on roads to supposedly check for alcohol or drugs. Please stand up and _DO_ (not just say) something! Don't let this continue!

In the rare case that original ideas Kenneth J. Hendrickson N8DGN
are found here, I am responsible. Owen W328, E. Lansing, MI 48825
Internet: kjh@pollux.usc.edu UUCP: ...!uunet!pollux!kjh

Date: 28 Nov 89 18:46:35 GMT
From: shlump.nac.dec.com!koning.dec.com!koning@decwrl.dec.com (Paul Koning)
Subject: WANTED : References on 'Direct Digital Synthesis'

In article <28502@prls.UUCP>, gert@prls.UUCP (Gert Slavenburg) writes:

> In a brochure by Icom, I noticed that they incorporate a synthesis
> method 'Direct Digital Synthesis' in their HF transceivers. I sort of
> have an idea of what they do, but would like references to articles or
> books to study the topic further.
> Thank you,
>
> Gert Slavenburg
> (UUCP : ...!pyramid!prls!gert
> Internet : pyramid!prls!gert@uunet.uu.net)

Actually, what Icom uses isn't "direct digital synthesis". What they use
is a typical multi-loop PLL type synthesizer, with a DDS synthesizer inside
it to generate one of the reference frequencies. I suppose it gives you
a little bit of the advantages of REAL DDS, but not a whole lot.

Anyway, good starting references are two QST articles by Fred Williams,
in April '84 and February '85.

If you want to build your own, don't use these articles, though. The
technology in them is out of date (VLSI is available that does 80% of the
job in one chip, at lower cost). There are also a number of sources for
the D/A converter significantly cheaper than the ones used in the
articles. (Of course, if you work for a D/A manufacturer, as Williams
does, the picture changes! :-))

paul, nild

Date: 28 Nov 89 14:12:51 GMT
From: philmtl!philabs!briar.philips.com!rfc@uunet.uu.net (Robert
Casey;6282;3.57;\$0201)
Subject: was: What's a good "FCC class B" PC/AT c, now: shielded coax

In article <1989Nov28.031805.28441@Neon.Stanford.EDU> kaufman@Neon.Stanford.EDU
(Marc T. Kaufman) writes:

>In article <30500298@ux1.cso.uiuc.edu> phil@ux1.cso.uiuc.edu writes:
>>I recommend either using tightly shielded coax (meaning Belden 9913 or 9311)...
>Last I saw, 9913 was low loss, but not well shielded (something like 85-90%).
>For in-shack use, try RG-55 (RG-58 size) or RG-214 (RG-8 size). Both are
>double braid shields.

If you can find some, Ethernet coax has an excellent shield. 2 braids and 2 foil shields. Other than that, it looks like RG8 with a solid center conductor. And a bright yellow or orange color on the outside.

73 de WA2ISE

End of INFO-HAMS Digest V89 Issue #942
